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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/032,062	12/31/2001	Yun Bok Lee	049128-5036	5647

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MORGAN LEWIS & BOCKIUS LLP
1111 PENNSYLVANIA AVENUE NW
WASHINGTON, DC 20004

EXAMINER

WARREN, MATTHEW E

ART UNIT	PAPER NUMBER
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2815

DATE MAILED: 03/31/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/032,062

Applicant(s)

LEE, YUN BOK

Examiner

Matthew E. Warren

Art Unit

2815

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 January 2004.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) 9-18 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

This Office Action is in response to the Election filed on January 14, 2004.

Election/Restrictions

Applicant's election of Group I, claims 1-8 in the Paper filed on January 14, 2004 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).

Specification

The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Art Unit: 2815

Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Miyashita et al. (US 5,184,236).

In re claim 1, Miyashita et al. shows (fig. 4 and col. 8, lines 8-30) a liquid crystal display device having liquid crystal cells arranged in a matrix comprising a gate line for receiving a scanning signal, a data line for receiving a data signal, and a pixel electrode (105) provided at an intersection of the gate line and the data line to drive a liquid crystal cell. A thin film transistor (106) for responding to the scanning signal is used to switch the data signal into the pixel electrode. An alignment film (107) is formed on at least a portion of the gate line, the data line and the pixel electrode to determine a primary alignment direction of a liquid crystal (col. 8, lines 27-30).

Claims 4 and 6 are rejected under 35 U.S.C. 102(e) as being anticipated by Song et al. (US 6,215,541 B1).

In re claim 4, Song et al. shows (figs 5-7) a liquid crystal display device having liquid crystal cells arranged in a matrix type comprising a gate line (20) for receiving a scanning signal, a data line (60) for receiving a data signal, a pixel electrode (65) and a common electrode (11) provided at a pixel area near an intersection of the gate line and the data line to drive a liquid crystal cell. A thin film transistor (col. 5, lines 48-67) for responding to the scanning signal is used to switch the data signal into the pixel electrode. An alignment film is entirely coated on the substrate to protect the signal wires including the gate line, the data line, the pixel electrode and the common

Art Unit: 2815

electrode and to determine a primary alignment direction of the liquid crystal (col. 7, lines 12-14).

In re claim 6, Song et al. shows (fig. 6) that the common electrode (11) is formed at a layer different from the pixel electrode (65).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 2 and 3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Miyashita et al. (US 5,184,236) as applied to claim 1 above, and further in view of Kubo et al. (US 6,624,864 B1).

In re claims 2 and 3, Miyashita et al. shows all of the elements of the claims except the alignment film being a polyimide resin and the properties of the film. Kubo et al. discloses (col. 9, lines 28-34) an alignment film formed on pixel electrodes. The alignment film is made of polyimide and has a thickness of 50nm (500 Angstroms). Kubo does not specifically state that the dielectric constant of the polyimide is 3, however, because the material is the same as the materials used in the instant invention, the polyimide of Kubo is inherently 3. Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the

Art Unit: 2815

alignment film of Miyashita by using a material such as polyimide as taught by Kubo to adhere to an electrode and provide an alignment of a liquid crystal material.

Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Song et al. (US 6,215,541 B1) as applied to claim 4 above, and further in view of Youn et al. (US 6,583,841 B2).

In re claim 5, Youn et al. shows all of the elements of the claims except the common electrode formed of transparent conductive material and formed in the same layer as the pixel electrode. Youn et al. shows (fig. 9E and 9F) that an LCD may be alternately formed having a pixel electrode (66a) and a common electrode (54a) formed in the same layer. Youn also teaches (col. 5, lines 32-50) that the common electrode may be formed of a transparent conductive material such as ITO. Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the pixel and common electrodes of Song by forming them in the same layer and using ITO because Youn teaches that such techniques and materials are suitable for operation of LCD devices.

Claims 7 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Song et al. (US 6,215,541 B1) as applied to claim 4 above, and further in view of Kubo et al. (US 6,624,864 B1).

In re claims 7 and 8, Song et al. shows all of the elements of the claims except the alignment film being a polyimide resin and the properties of the film. Kubo et al.

Art Unit: 2815

discloses (col. 9, lines 28-34) an alignment film formed on pixel electrodes. The alignment film is made of polyimide and has a thickness of 50nm (500 Angstroms). Kubo does not specifically state that the dielectric constant of the polyimide is 3, however, because the material is the same as the materials used in the instant invention, the polyimide of Kubo is inherently 3. Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the alignment film of Song by using a material such as polyimide as taught by Kubo to adhere to an electrode and provide an alignment of a liquid crystal material.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Kwak et al. (US 6,476,895 B1) discloses that an alignment layer formed directly on a gate material provides better adhesion for the alignment layer and ultimately improves device reliability.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Matthew E. Warren whose telephone number is (571) 272-1737. The examiner can normally be reached on Mon-Thurs, and alternating Fri, 9:00-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tom Thomas can be reached on (571) 272-1664. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 2815

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

MEW

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March 4, 2004

Tom Thomas
Tom Thomas
Supervisory Patent Examiner
Technology Center 2800